

11.0 GeoCommunicator Use Cases

11.1 Overview of GeoCommunicator Use Cases

The use cases for GeoCommunicator (GC, or GeoCom) are intended to describe the business processes necessary to communicate land-related activities and data over the Internet. Consumers of spatial information may use GeoCommunicator to discover:

- *WHAT* data and activities are related to their personal area of interest (e.g. a state or county) and how to access the information, and/or
- *WHERE* (geographic extent) specific data and activities (e.g. Public Land Survey coordinate data sets, planned field survey projects) are linked to the land and how to access that information.

The GeoCommunicator includes an activity notification option based on a subscriber's defined geographic extent. Providers of spatial information describe their data and activities in a searchable index, locate their geographic extents on a map interface, and enable information flow through email contact and links or paths to existing data stores.

Accessing Spatial Information

The GeoCommunicator is a web-enabled environment in which graphical map tools and tabular text tools allow the user to narrow their geographic and content search for spatial information before results are reported. Spatial information (in the GeoCommunicator context) includes metadata and catalog references to data and related activities that have a geographic component. The GeoCommunicator combines some of the concepts of a data clearinghouse, and an information subscription service with the NILES 'Field-to-Fabric' concept in which events from raw data collection to final data set integration and publication may be identified and communicated. Planned surveys, readjusted parcel data, watershed analysis, resource inventories, public planning processes, ongoing data conversion projects, currently available data and contacts are examples of spatial information that will be part of the GeoCommunicator. Spatial information in the GeoCommunicator context also includes activities on the land that do not necessarily result in data, such as stream enhancement projects, habitat restoration, recreational facilities development, and land related communication activities such as public land-use planning, conferences and forums.

Scope of GeoCommunicator

The GeoCommunicator is not a data warehouse, nor is it intended to replicate the efforts of the FGDC clearinghouse. The GeoCommunicator is used to coordinate ongoing information and establish a system where agencies and people that download information from the Internet can have a sense of updates and notifications related to that data. The GeoCommunicator is also not a data repository. A national GeoCommunicator site will provide links to existing contacts and data sources, but it is not a mechanism to resolve discrepancies in data sets, to store data sets, or to centralize data distribution.

It is intended that GeoCommunicator will meet field level business requirements by providing an indexing capability down to the appropriate units (section, parcel, quad), by

expanding data and activity categories to support a wide variety of land management business areas (field survey, title plant, natural resources), and by providing communication tools that improve customer service, promote partnerships, avoid redundancy and duplication, and facilitate data standardization across the landscape. It is envisioned that a national GeoCommunicator site could link regional GeoCommunicator sites hosted by a variety of agencies or organizations.

The first implementation of the GeoCommunicator will be used by the NILS project to assist in managing its project coordination and activities. The GeoCommunicator use cases are linked to Survey and Parcel Management use cases (see Figure 11.1), but GeoCommunicator actors are generic (not agency specific), and the GeoCommunicator functionality is not limited to NILS generated data or activities.

Summary of Use Cases

For each of the GeoCommunicator use cases, the following sections (sections 11.3 through 11.13) contain subsections for analysis, overview, primary scenario, and secondary scenarios. Within the analysis subsections are discussions of context, concepts, key features, application integration and development implications that will help direct subsequent design and development phases. The initial context of the use cases is in the survey management and cadastral business area, but other domains will be modeled and tested to insure that GeoCommunicator functionality is flexible and extensible. The discussion of concepts related to each use case is especially important because key terms are given definitions specific to their use in the primary and secondary scenarios. All significant terms for all use cases are also defined in Appendix A, Glossary. The use case scenarios capture actor (a user category) input and system response in a logical work flow format.

The **GC-01 Conduct Search** and **GC-02 Browse Search Results** use cases provide tools for the Browser actor seeking spatial information. The Browser specifies the 'where' (spatial extent), the 'what' (data or event category), and the 'when' (time-frame) in a spatial query and views/downloads the results. This actor may become a Subscriber through the **GC-07 Manage Subscriber Account** use case where flags, defined by a spatial query, are set that trigger automatic notification (e-mail).

Actors intending to provide information apply through the **GC-05 Manage Provider Account** use case and utilize tools and procedures described in the **GC-06 Submit Data** and **GC-03 Submit Event** use cases. Event Providers submit descriptions of planned activities, the location (spatial extent), and duration (calendar). Data Providers submit abbreviated metadata including data format and currency (current-to date), location (spatial extent), and the paths or links to existing data. They become Event Providers when data activities such as collection and maintenance are submitted.

The **GC-10 Post Comment** use case provides for communication among GeoCommunicator actors. Any actor may join a topical forum or e-mail group. They may communicate with Providers concerning their data and events (identify errors, ask questions, etc.). An actor may post an Information Notice describing available information, in response to a data call or as a proposal for inclusion within the GeoCommunicator. An Information Request may be posted as a data call (when no information can be found with the **GC-01 Conduct Search** process), or to share in developing a new data set, form a partnership, participate in a joint

decision. The remaining use cases are designed for an Administrator actor to manage accounts, to manage the on-site data and links to the off-site data, to monitor the events calendar, to trouble-shoot communication problems, and to maintain the GeoCommunicator web site.

11.2 GeoCommunicator Use Case Analysis

This section presents the individual GeoCommunicator use cases. GeoCommunicator functionality is available system-wide - i.e. NILES users performing Survey, Measurement or Parcel Management would have access to GeoCommunicator.

Table 11.1 lists the GeoCommunicator use cases. Figure 11.1 shows the relationship of these use cases to the other NILES use cases.

Table 11.1. GeoCommunicator Use Cases

Use Case	Section	Description
GC-01 Conduct Search	11.3	<p>Process to find <i>data references</i>, <i>reference documents</i> and <i>events</i>.</p> <p>Establish or modify search parameters that define a <i>research scope</i> and submit query. Example parameters include:</p> <ul style="list-style-type: none"> ▪ <i>data category</i>; ▪ <i>event category</i>; ▪ <i>spatial extent</i>; ▪ <i>logical operators</i>; ▪ <i>temporal constraints</i>; ▪ <i>reference document category</i> <p>Subscriber may opt to save search parameters for re-use at a later time.</p>
GC-02 Browse Search Results	11.4	<p>View, evaluate, and/or remove items (data references, reference document and events) returned from the <i>conduct search</i> process.</p> <p>The Actor may navigate to on-line data references (URLs).</p>
GC-03 Submit Event	11.5	<p>Process to submit an event and/or add a new <i>event category</i>.</p> <p>NOTE: Specific events may be automatically triggered by other system events. Event Providers submitting events would have their stored account information pre-populated into the event submission form. Any Actor can become an Event Provider by establishing a provider account.</p>

Use Case	Section	Description
GC-04 Manage Event Notification Process	11.6	<p>System administration of errors related to events and triggered notifications including the resolution of errors involving subscription and event notification. Also resolve failed e-mail notification and remove outdated events. Approve requests for new event categories.</p> <p>NOTE: System automatically:</p> <ul style="list-style-type: none"> creates a list of subscribers to be notified (by event category and spatial extent) by matching key criteria from the event and subscriber databases; sends e-mail notification to the appropriate subscribers; and logs communications and produces an event/notification error list.
GC-05 Manage Provider Account	11.7	<p>Process to establish or modify a <i>data provider account</i> or an <i>event provider account</i> (provider information).</p>
GC-06 Submit Data	11.8	<p>Process to submit index and catalog information for <i>geo-referenced data</i>, <i>geo-related data</i> and/or <i>reference documents</i> to GeoCommunicator.</p> <p>This includes:</p> <ul style="list-style-type: none"> data reference (URL or physical location); relevant <i>data catalog</i> information (e.g. metadata); date; access restrictions; spatial reference; and spatial extent. <p>NOTE: Provider may post product availability, restrictions, and subscriptions in the data catalog.</p> <p>NOTE: Providers will supply references to data housed in remote storage locations. This use case may include some security administration for restricted-access data sources.</p>
GC-07 Manage Subscriber Account	11.9	<p>Process to establish or modify subscriber account including:</p> <ul style="list-style-type: none"> Actor information; Actor preferences; and Subscription/notification parameters (spatial extent, event categories, scheduling). <p>NOTE: Browser may elect to become a new subscriber and pass current <i>research scope</i> information into the account setup.</p>

Use Case	Section	Description
GC-08 Manage Data Process	11.10	<p>System administration to:</p> <ul style="list-style-type: none"> quality control (QC) data reference information; insert new/replacement data reference information; modify data catalog; or delete data references from the system. <p>NOTE: Some providers will supply physical storage site/contact references to data rather than web site URLs.</p> <p>NOTE: Data submissions will be automated where possible.</p>
GC-09 Manage Accounts	11.11	<p>System administration of subscriber and provider accounts including:</p> <ul style="list-style-type: none"> certifying new accounts; resolving errors; and managing account-related issues.
GC-10 Post Comment	11.12	<p>Process to handle <i>communication events</i> to:</p> <ul style="list-style-type: none"> a topical forum (via e-mail); e-mail group (e.g. to review proposed data); data provider (e.g. to report errata); publish an information notice (e.g. an RFP, a Public Notice, or data discrepancy); or publish an information call (e.g. data request, reference request or event request). <p>NOTE: Browsers may have limited communication access. Subscribers may have enhanced access to forums</p>
GC-11 Manage Forums	11.13	<p>The System Administrator:</p> <ol style="list-style-type: none"> (1) sets up and closes communication forums, e-mail groups; (2) monitors content; and (3) manages errors.

Figure 11.1 Business Process Analysis—GeoCommunicator Use Cases

<p>General Requirements</p> <ul style="list-style-type: none"> • Manage Data Transformation • Make Formatted Output • Compare/Contrast Data • Reconstruct Historical Version of Data • Administer Data Access Rights • Audit Workflow Process 	SYSTEM
<p>Research</p> <ul style="list-style-type: none"> • SM-01 Survey Research <p>Capture Survey Readings and Observations</p> <ul style="list-style-type: none"> • SM-02 Pre-Field Survey Setup • SM-03 In-Field Survey Setup • SM-04 Collect Field Data Observations • SM-05 Perform COGO and Layout 	SURVEY MANAGEMENT
<p>Analyze Survey Data and Construct Measurements</p> <ul style="list-style-type: none"> • MM-01 Construct Measured Feature • MM-02 Adjust Analyze Measurement Network • MM-03 Edit Measurement Data 	MEASUREMENT MANAGEMENT
<p>Identify and Verify Legal Descriptions</p> <ul style="list-style-type: none"> • PM-01 Verify Parcel <p>Add, Create, Construct Legal Descriptions</p> <ul style="list-style-type: none"> • PM-02 Construct Legal Description <p>Manage Legal Description Fabric (resolve gaps and overlaps)</p> <ul style="list-style-type: none"> • PM-03 Edit Legal Description Fabric • PM-04 Re-Adjust Fabric <p>Construct Parcels from Legal Description Components</p> <ul style="list-style-type: none"> • PM-05 Edit Parcel Fabric • PM-06 Edit Parcel Annotation 	PARCEL MANAGEMENT
<p>GeoCommunicate</p> <ul style="list-style-type: none"> • GC-01 Conduct Search • GC-02 Browse Search Results • GC-03 Submit Event • GC-06 Submit Data • GC-10 Post Comment <p>Manage Communications</p> <ul style="list-style-type: none"> • GC-04 Manage Event Notification Process • GC-05 Manage Provider Account • GC-07 Manage Subscriber Account • GC-08 Manage Data Process • GC-09 Manage Accounts • GC-11 Manage Forums 	GEOCOMMUNICATOR

11.3 GC-01 Conduct Search

11.3.1 GC-01 Conduct Search Analysis

Context

For NILS business operations, the GeoCommunicator will facilitate access to surveying and land records-related information to support research, notification, and integration of land management activities. ***GC-01 Conduct Search*** is the first step to facilitate research that may save time and identify opportunities for shared collection, maintenance and decision making.

Example: GeoCommunicator for Surveyors

For the surveying community, ***GC-01 Conduct Search*** can become a standard tool to submit a request for survey information using geographic, temporal or categorical parameters.

Surveyors will potentially use the information provided by the GeoCommunicator to facilitate:

- short and long-term survey project program planning;
- pre-field research for specific survey projects;
- accessing specific information while conducting a survey project.

GC-01 Conduct Search will provide references to available data and activities that correspond to a user-defined query for land records.

New Concepts

Data. Collections of information, organized by category in sets, described by metadata, and related to a land index; searchable by GeoCom actors. *Data* in this context is “published” data, in a variety of formats or media, and not necessarily digital. Examples:

- Geo-Referenced Data-Raster or vector data that contain world coordinates.
- Geo-Related Data-Data that is associated or linked to a point or area entity (spatial objects). Examples: Survey Plat of a township; Patents and deeds linked to a parcel by legal descriptions.

Reference Documents. Related technical or educational information that may explain, expand, or document data or events. May have no direct relationship with a spatial data set (e.g. manuals, RFIs, reports, regulations, etc.) or be related to a land index.

Event. A significant change in state or status occurring at a point in time or for a duration of time as a function of a process or activity that might trigger a flag for notification. *Event* expands on the concept of activity, which usually connotes a conscious human effort, to include change due to transactional and system operations. *Event* is intended to capture the dynamic aspect of communication. *Events* may not necessarily result in published data. See further discussion of *Event* under *GC-03 Submit Event*.

Examples:

Land Management. Cadastral Survey Events: Field survey project is planned, described, located, and time-framed; partners are added; description changes; location is extended; project begins; project ends; coordinate data available; official plats and notes published.

Data. GCDB Data Maintenance Events: Data available from one or more field survey projects; planned data maintenance, described, located, and time-framed; data call for more survey and control issued; project extents change; revised data set published.

Communication. Land-use Planning Events: Land-use issues and planning process described, located, and time-framed; alternatives are published; public input period begins; ends; final plan published

System Business. GeoCom Administrative Events: New activity category added; data contact email address changes; new subscriber added to data provider's list.

Research scope. The total of all choices and defaults for *Conduct Search* before the query is launched. Includes combinations of the following parameters – data categories (types of data ex. cadastral, wildlife, hydrology), event categories (ex. data submission, data call, industry activities or events, general or specific communication), spatial extent (ex. latitude/longitude coordinate box, drawn polygon, administrative boundary, address), data quality (i.e. data integrity, data consistency, measurement type), temporal constraints (time periods or ranges). Search is conducted based on search criteria and Actor's access level.

Category. Facilitates *Conduct Search* by organizing data, activities, forums, etc by subject matter (content). Nested sub-categories refine search by status, e.g., published, existing, current, planned, etc.

Spatial extent. Location on the ground (footprint). Includes any method for describing a point or area. Examples include Latitude/Longitude, PLSS, minimum bounding rectangle, boundaries (admin, other).

Logical operators. Conditions, parameters of a query.

Temporal constraints. Date and time range parameters.

Research Results. Map and tabular view of items that match the search parameters of the Research Scope and access permission level in the Conduct Search process.

Search Parameter Form. GeoCommunicator form for Actors to enter search parameters.

Default Spatial Extent. The maximum allowable spatial extent, set by the Administrator, for *Conduct Search*. Also, an actor's profile will provide the option to define an initial spatial extent for example specific state or county.

Map view. Displays reference themes as aids in *Conduct Search*. Displays geo-referenced spatial extents (footprints) of *Research Results*. Tabular view potentially displays item category(s), description, timeframes and status (availability, restrictions, cost, location, etc.).

Key Features- Functionality

The Actors ***GC-01 Conduct Search*** are Browser and Subscriber.

Through a graphical (map and icon) and/or textual (pull-down menus, selection boxes or input forms) interface, define a query to fulfil the business mandate. The research scope will most likely be a combination of geographic, category and temporal parameters.

The query will run against the Master Catalog and Index, and return a list of items that fulfill the research scope. The list will provide web-links (URLs) to on-line data sources and site/contact information for additional information. The Actor may want to communicate with a data/event/reference document provider.

If the research results returned in ***GC-02 Browse Search Results*** do not meet the business needs the Actor can change the research scope (search criteria) and resubmit the search. If the results meet the business needs the user may contact or navigate to the data provider site.

Subscribers may save their search parameter forms as a templates for future searches.

Application Integration	<p>GC-01 Conduct Search functionality is closely linked with the following GeoCommunicator use cases:</p> <ul style="list-style-type: none">▪ GC-02 Browse Search Results providing Actors with the tools to review and evaluate the information returned by the GC-01 Conduct Search process,▪ GC-07 Manage Subscriber Account allowing <i>Browser</i> Actors to request a <i>Subscriber</i> Account,▪ GC-10 Post Comment providing Actors the ability to communicate directly with the provider(s) of a data set(s).
Development Implications	<p>GC-01 Conduct Search functionality is closely linked with GC-02 Browse Search Results and therefore will be developed in parallel as the highest priority GeoCommunicator functionality.</p>

11.3.2 GC-01 Conduct Search Overview

Use Case:	GC-01 Conduct Search
Description	<p>Process to find <i>data references</i>, <i>reference documents</i> and <i>events</i>. Establish or modify search parameters that define a <i>research scope</i> and submit query. Example parameters include:</p> <ul style="list-style-type: none">▪ data category;▪ event category;▪ spatial extent;▪ logical operators;▪ temporal constraints;▪ reference document category <p>Subscriber may opt to save search parameters for re-use at a later time.</p>
Actors	Browser, Subscriber
Pre-Condition	The Actor wishes to conduct a search for available data, reference document, and events. If Actor is a subscriber the login process is completed.

Use Case:	GC-01 Conduct Search
Post-Condition	<p>Research results are returned to the Actor as a symbolized map and tabular view indicating available reference document(s), data(s) and event(s) that match the research scope search parameters.</p> <p>The map view displays the spatial extent of available data and events relative to the spatial extent of the defined research scope.</p> <p>The tabular view displays the status (availability, restrictions, cost, location, etc.) and/or category of data, reference document and events.</p> <p>Subscriber may have saved search parameter form as a template for future searches.</p> <p>NOTE: Research Results are returned according to subscriber (group) permissions.</p>
Cross-Reference	<i>GC-02 Browse Search Results; GC-07 Manage Subscriber Account; GC-10 Post Comment</i>

11.3.3 GC-01 Conduct Search Primary Scenario

Actor Action	System Response
1. This use case begins when the Actor launches the conduct search process.	<p>2. Display <i>search parameter form</i> and map with <i>default spatial extent</i>.</p> <p>[Actor is a subscriber] provide choice of pre-saved <i>search parameter forms</i> (query templates).</p>
<p>3. Refine <i>research scope</i> by input to <i>search parameter form</i> and/or by interacting with map view.</p> <p>[Subscriber] select pre-saved <i>search parameter form</i>.</p>	<p>4. Update values in the <i>search parameter form</i> and update the <i>map view</i>.</p> <p>NOTE: The <i>spatial extent</i> of the <i>research scope</i> is updated in the <i>search parameter form</i>, as it is changed by the Actor in the map view, and vice-versa.</p>

Actor Action	System Response
5. Submit search.	<p>6. Based on permissions level, process search parameters against the <i>catalog</i> of available data, reference document and events return <i>research results</i> to the Actor as a map view and tabular view.</p> <p>Views use symbols to indicate location, status and category of <i>data</i>, <i>reference document</i> and <i>events</i>.</p> <p>System may indicate:</p> <ul style="list-style-type: none">▪ available formats and sizes of data; or▪ specific items are not immediately viewable and must be obtained from the data provider (password/group protection). <p>Actor is prompted to Save Results, Revise Search, Cancel, Save Search, etc.</p>
7. Choose next action.	<p>8. Process as needed.</p> <p>[Save Results] save resulting information for use in browse</p> <p>[Revise] go to #3</p> <p>[Cancel] quit</p> <p>[Save Search] prompt Actor to name/save search parameter form as a template.</p>

11.3.4 GC-01 Conduct Search Secondary Scenarios

Name	Point of Occurrence/Overview
Actor wants to communicate with data/event/reference document provider.	Step #6. Call GC-10 Post Comment

11.4 GC-02 Browse Search Results

11.4.1 GC-02 Browse Search Results Analysis

Context	<p>The purpose of <i>GC-02 Browse Search Results</i> is to provide the ability to review the <i>research results</i> of an information request to the GeoCommunicator in order to evaluate geographic, categorical and/or temporal relevance.</p>
Key Features-Functionality	<p>The Actors of <i>GC-02 Browse Search Results</i> are Browser and Subscriber. A Browser has the limited functionality of viewing the research results. In addition to viewing the search results, a Subscriber can save search parameters or subscribe to future releases of the data. A Browser can opt to become a Subscriber by requesting a Subscriber Account.</p> <p>Based on the research scope defined in <i>GC-01 Conduct Search</i> the Actor can manage the research results display by adding, or removing items via the map view or via the tabular view. Once the research results list is refined as desired it can be saved or printed. The Actor may use the data references to navigate to selected data provider sites and review and/or download available data.</p> <p>If the relevance of the information returned fails to meet the business objectives, the Actor has the option of refining the search criteria, initiating a new query, or leaving the search functions of GeoCommunicator.</p> <p>The Actor can review the result items that fulfill the research scope criteria. Item types may include:</p> <ul style="list-style-type: none">▪ Data - land records mapping (vector or raster), image, attribute and/or metadata;▪ Reference Documents - e.g. survey support information, field notes, technical or legal documents. This support information can be geo-referenced (have known coordinates) or geo-related (related to a known location on the Earth);▪ Events: display event information including data, activity and communication. <p>Footprints will graphically depict the spatial extent (size and shape) of item(s) that fulfill the research scope criteria.</p> <p>Subscribers have the option of saving the research scope query for future re-use.</p>

**Application
Integration**

GC-02 Browse Search Results functionality is closely linked with GeoCommunicator's:

- ***GC-07 Manage Subscriber Account*** allowing Browser Actors to request a Subscriber Account,
- ***GC-10 Post Comment*** providing Actors the ability to communicate directly with the provider(s) of a data set(s),
- ***GC-01 Conduct Search*** providing Actors the ability to modify their *research scope* or search criteria.

**Development
Implications**

GC-02 Browse Search Results functionality is closely linked with ***GC-01 Conduct Search*** and therefore will be developed in parallel as the highest priority use cases.

11.4.2 GC-02 Browse Search Results Overview

Use Case	GC-02 Browse Search Results
Description	View, evaluate, and/or remove items (data references, reference documents and events) returned in the research results. The Actor may navigate to on-line data provider sites.
Actors	Browser, Subscriber
Pre-Condition	The Actor has conducted a search and received the research results.
Post-Condition	Actor has refined the items in the research results. Actor has viewed and/or navigated to the information required.

Use Case	GC-02 Browse Search Results
Cross-Reference	<i>GC-07 Manage Subscriber Account, GC-10 Post Comment, GC-01 Conduct Search</i>

11.4.3 GC-02 Browse Search Results Primary Scenario

Actor Action	System Response
<p>This use case begins when the Actor interacts with items in the <i>research results</i>. The Actor may:</p> <ul style="list-style-type: none"> manage display of the data footprints; view available metadata and event information; or select items and navigate to the provider site. 	<p>2. Process Actor action and display item source information as appropriate. Map view may show data's spatial extent.</p> <p>[manage display] add/remove from map view or tabular view</p> <p>[view metadata] display additional information</p> <p>[view event] display event information</p>
3. Views items	<p>4. Provide options to:</p> <ul style="list-style-type: none"> navigate to provider site contact the <i>Data Provider</i>; print; save <i>research results</i>; refine the search; cancel the search/browse process.
5. Choose action.	<p>6. Process action.</p> <p>[Navigate] jump to URL source</p> <p>[Contact Data Provider] route to Data Provider</p> <p>[Print] set up and print</p> <p>[Save Research Results] save current <i>research results</i> to an output file.</p> <p>[Cancel] quit;</p>

11.4.4 GC-02 Browse Search Results Secondary Scenarios

Name	Point of Occurrence/Overview
Need to refine search	Steps #1,3,5 – return to GC-01 Conduct Search

11.5 GC-03 Submit Event

11.5.1 GC-03 Submit Event Analysis

Context

The purpose of **GC-03 Submit Event** is to provide a process to share an event (data category, activity, and communication) by registering the details of the event on the GeoCommunicator.

An event may also be registered automatically as a result of an event trigger from another NILS sub-process (i.e. a specific, pre-defined survey management event). Data events have a *spatial extent*.

Activity and communication events may or may not have spatial extents. Event submission may cause subscribers to be notified of activities. The event submission form would provide information on the format of the data, how frequently it is updated, and what the data contains. An update to the data might trigger a notification.

As an example, an agency could be a data provider. In this case the provider would complete an event submission form. The event in this case would be 'supply data'. 'Data updates' events would trigger notification to registered subscribers.

Another example of an event could be a 'proposed data collection'. The triggers could be 'updates', 'new partner identified', 'specifications finalized', 'funding received', 'project is finalized' and is now a 'planned activity', or 'project has been scheduled'. The subscribers would receive automatic updates based on these triggers.

Browsers can submit a request to become an Event Provider by applying for an account with the event provider designation. Subscribers and Data Providers can become an Event Provider by requesting the event provider designation be added to their current account.

A data provider is a special case of an event provider. The events for a data provider are centered around data. A data provider may have proposed, planned, or in progress as well as data set in hand and is being maintained on some schedule.

This process pertains to the Event Provider actor.

New Concepts

Activity Event. Any activity on the land submitted through the SubmitEvent (manual) process by the Event Provider.

Category. A classification of similar data sets, events, event providers, reference information, or communication events to facilitate the Submit and Search processes.

Communication Event. Any creation of a discussion forum, e-mail group, information notice, sending an e-mail, or information call submitted through the post comment process.

Data Event. Any data submitted through the submit data process that automatically sets a flag to trigger a notification.

Event Submission Form. A GeoCommunicator form for submitting an event.

Event Catalog. A listing of data by category type (Data, Activity Event, Communication Event, etc.) that may contain any or all of the following: metadata (description), current-to date, location/path to local storage, access restrictions, spatial reference, spatial extent, duration dates, data events (notification flags), activity events or communication medium events. Also called Catalog Information.

Event Category. Any activity, data submission, or communication that may trigger a notification.

Event Provider Forms. Will automatically be pre-populated from account information when events are being submitted.

Key Features- Functionality

Event Notification is triggered by the submission of a category event. Subscribers to that category of event (and spatial extent if applicable), will be notified of an update to the Master Catalog pertaining to that Area Of Interest.

Events have a provider agency or person, a name or title, a description of the activities that cause a trigger or notification, expected frequency of notifications, expected information to be included in the delivery, duration of the event, and other information that may be important to subscribers. Events will have a defined geography or area of applicability.

Event catalog interaction will allow:

- list current events;
- add new events;
- update existing events;
- delete existing events; and
- add new event categories.

The Event Provider is prompted for event submission metadata and details about the event itself through an event submission interface (form). This form may include mandatory submission fields including the name and e-mail address of the event provider, spatial extent, event submission category(s), event period timeframe, and associated documents.

New event forms provide a means for Event Providers to request that new event categories be added to the GeoCommunicator system. The new event form establishes a new event entry. Event submission form details are loaded into Master Catalog when verified by automated submission integrity controls.

Upon submission completion, or in a nightly batch process, events are added to the event database.

Application Integration

Submit Event functionality is closely linked with GeoCommunicator's:

- **Submit Data** process to submit geo-referenced data, geo-related data and/or reference documents and relevant data catalog information such as metadata to GeoCommunicator,
- **Manage Event-Notification Process** providing system administration of errors related to subscriber event notifications, which are also called event triggers.
- **Manage Provider Account** allowing Browsers or Subscribers to establish or modify data provider, event provider account information.

Development Implications

Submit Event is a high-priority function to improve project-related and general communications within the spatial and decision making industry.

11.5.2 GC-03 Submit Event Overview

Use Case	GC-03 Submit Event
Description	Process to submit an <i>event</i> and/or add a new <i>event category</i> . NOTE: Specific <i>events</i> may be automatically triggered by other system events. <i>Event providers</i> submitting events would have their stored account information pre-populated into the <i>event submission form</i> . (Any Actor can become an <i>event provider</i> by establishing a provider account).
Actors	Event Provider
Pre-Condition	Existing event provider wants to submit an event.
Post-Condition	Event has been submitted. System automatically processes events once they are submitted.
Cross-Reference	GC-06 Submit Data; GC-04 Manage Event Notification Process; GC-05 Manage Provider Account

11.5.3 GC-03 Submit Event Primary Scenario

Actor Action	System Response
1. This use case begins when an <i>event provider</i> launches the event management process.	2. Display interactive <i>event catalog</i> (e.g. list, add, update, or delete activity events, or add activity event categories) with account information pre-populated.
3. Input to <i>event catalog</i> . Select add, update/modify, or delete event activity. May add activity event category (test support for this in proof-of-concept).	4. Display appropriate add, update, or delete sub-forms. Event provider must specify event category, date, and its <i>spatial extent</i> , etc.
5. Submit.	6. Process event and insert into database. Trigger notifications as required. The current event calendar is updated and re-published. The GeoCommunicator automatically generates a subscriber notification list by matching key criteria (<i>event category</i> and <i>spatial extent</i>) from the event and subscriber databases. The system then sends e-mail notification to the list of subscribers.

11.5.4 GC-03 Submit Event Secondary Scenarios

Name	Point of Occurrence/Overview
New Event Category	Step#3. Provide new event request form and route to administrator for approval along with event information.
Browser wants to submit event	Step #2. Establish an account and collect required Actor information.

11.6 GC-04 Manage Event Notification Process

11.6.1 GC-04 Manage Event Notification Process Analysis

Context	<p>The purpose of the GeoCommunicator <i>GC-04 Manage Event Notification Process</i> is to provide the Administrator with an interface (tools) to resolve errors related to event and notification processes. An event management and notification process logs event notification errors for the Administrator to resolve.</p>
Key Features- Functionality	<p>A need for an Administrator interface (tools) to facilitate:</p> <ul style="list-style-type: none">▪ event notification (e-mail) problem resolution;▪ removal of outdated events from the GeoCommunicator; and▪ approval requests for new <i>event categories</i>. <p>The GeoCommunicator automatically generates a subscriber notification list by matching key criteria (<i>event category</i> and <i>spatial extent</i>) from the event and subscriber databases. The system then sends e-mail notification to the list of subscribers.</p> <p>A list of 'to be resolved' event and notification transactions including unresolved errors, unresolved notifications (e-mail addresses), new <i>event category</i> requests, and expired events is displayed to GeoCommunicator Actors logging on with Administrator group level privilege.</p> <p>Administrator tools (wizards) will assist processing the error, updating the error transaction list(s), and updating databases as needed. Processing may require that an account be temporarily disabled.</p> <p>As problems are resolved the Administrator can delete each from this list which will trigger the notification process to re-send the notification(s).</p>
Application Integration	<p>'Manage Event-Notification Process' functionality is closely linked with GeoCommunicator's:</p> <p><i>GC-07 Manage Subscriber Account</i> allowing Browsers to request a Subscriber Account,</p> <p><i>GC-03 Submit Event</i> process to submit a <i>data category event</i>, <i>activity event</i>, or <i>communication event</i> to GeoCommunicator since an event may result in a new or updated data set submission.</p>

11.6.2 GC-04 Manage Event Notification Process Overview

Use Case	GC-04 Manage Event Notification Process
Description	System administration of errors related to events and triggered notifications including the resolution of errors involving subscription and event notification. Also resolve failed e-mail notification and remove outdated events. Approve requests for new <i>event categories</i> . NOTE: System automatically: <ul style="list-style-type: none"> creates a list of subscribers to be notified (by <i>event category</i> and <i>spatial extent</i>) by matching key criteria from the event and subscriber databases; sends e-mail notification to the appropriate subscribers; and logs communications and produces an event/notification error list.
Actors	Administrator
Pre-Condition	An event notification issue must be managed.
Post-Condition	Event notification issue is resolved.
Cross-Reference	GC-07 Manage Subscriber Account; GC-03 Submit Event

11.6.3 GC-04 Manage Event Notification Process Primary Scenario

Actor Action	System Response
1. This use case begins when the Administrator launches the 'manage notification process'	2. Display unresolved errors, unresolved notifications, requests for new <i>event categories</i> , and expired events.
3. Select an item to resolve.	4. Provide tools to handle errors, check e-mails, check event database, and approve/create new <i>event category</i> .
5. Use tools to resolve item.	6. Process item, update error lists (clear item), and update databases as needed. Send notifications upon resolving item (confirming fix and attempting to re-send {potentially} undelivered notifications)

11.6.4 GC-04 Manage Event Notification Process Secondary Scenarios

Name	Point of Occurrence/Overview
E-mail error	Notify Subscriber, temporarily disable subscriber account (route interim communication to holding area) and resolve communication error.

11.7 GC-05 Manage Provider Account

11.7.1 GC-05 Manage Provider Account Analysis

Context	The purpose of <i>GC-05 Manage Provider Account</i> is to provide Data Providers a process to request and manage their account (including profile).
New Concepts	<p>Data Provider Form. Captures input from a Data Provider resulting in the creation or modification of Data Provider account information in the Manage Provider Account use case.</p> <p>Event Provider Form. Captures input resulting in an event category from an Event Provider in the Submit Event process.</p> <p>Provider Catalog. This is essentially the provider form, populated with current profile, account, and data/event information of an established provider. It includes the list of subscribers to the provider's data and events. It is the view of information to be managed by a provider in this use case.</p> <p>Master Catalog. This is the consolidated view of all Provider Catalogs for administrative management, <i>CG-09 Manage Accounts</i>. The GeoCommunicator catalog is a subset of the Master Catalog, searchable and viewable by browsers and subscribers.</p>
Key Features-Functionality	<p>Provider Accounts are assigned to those Actors interested in submitting new, or updates of, information on a managed basis. As new data (<i>GC-06 Submit Data</i>) or new events (<i>GC-03 Submit Event</i>) are provided to the GeoCommunicator, a data or event entry is submitted to the Master Catalog.</p> <p>When information about new data (or events) is posted to a category of the GeoCommunicator Catalog, a process is initiated to generate notification to GeoCommunicator subscribers.</p> <p>Browsers (not yet a Data Providers) can submit a request for a Provider account at any time during a GeoCommunicator session. New provider account requests are routed to the account administrator for verification, creation with a userID/password pair and assigned group (role) privileges.</p> <p>Mandatory information will be required to become a Data Provider. At a minimum this will include contact information and metadata.</p> <p>Each provider will have an account profile with an interface (form) providing the ability to change information and preferences.</p>

Upon submission, the Provider's account information is automatically verified and then routed to the GeoCommunicator Administrator.

Provider user-IDs/passwords will be assigned to enable saving of profile and access privilege information.

Application Integration

Manage Provider Account functionality is closely linked with GeoCommunicator's:

- **GC-09 Manage Accounts** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts.

11.7.2 GC-05 Manage Provider Account Overview

Use Case:	GC-05 Manage Provider Account
Description	Process to establish or modify provider account information.
Actors	Data Provider, Event Provider
Pre-Condition	Provider needs to establish or modify provider account.
Post-Condition	Provider account is updated.
Cross-Reference	GC-09 Manage Accounts

11.7.3 GC-05 Manage Provider Account Primary Scenario

Actor Action	System Response
1. This use case begins when the Actor launches the data provider account management process.	2. Prompt for account/password NOTE: see new data provider account option below.
3. Enter account/password	4. Display <i>data provider form</i> , populated with existing values
5. Input/modify <i>data provider form</i> . Enter/update provider details; may cancel provider account. Submit.	6. Process changes to <i>data provider</i> account [delete account] prompt for confirmation
7. Confirm selections	8. Route to account administrator.

11.7.4 GC-05 Manage Provider Account Secondary Scenarios

Name	Point of Occurrence/Overview
New <i>data provider account</i>	Step #2. Presents blank <i>data provider form</i> and assist Actor to establish account.

11.8 GC-06 Submit Data

11.8.1 GC-06 Submit Data Analysis

Context The purpose of **GC-06 Submit Data** is to provide a process to share *geo-referenced data*, *geo-related data* and/or *reference documents* with others by registering the data/data sets on the GeoCommunicator.

Data may be packaged as a set of associated data elements from various categories. Data categories that have a spatial extent (footprint) can be displayed and searched for spatially. Categories of data include spatial layers, tabular, images, *reference documents*, *data discrepancies* and proposed layers, etc. Some *reference documents* may have no direct relationship with a specific spatial data set (e.g. manuals, RFIs, reports, etc.).

New Concepts **Data Catalog.** A listing of data by category type (Data, Activity Event, Communication Event, etc.) that may contain any or all of the following: metadata (description), current-to date, location/path to local storage, access restrictions, spatial reference, spatial extent, duration dates, data events (notification flags), activity events or communication medium events. Also called Catalog Information.

Spatial Reference. Projection(s), coordinate system(s), datum used. Listed in Data Catalog.

Key Features-Functionality Data providers may supply references (URLs or physical locations) to data. Submissions may include spatial (vector and raster having a spatial extent or footprint), imagery, and scanned documents such as Plats or field notes.

Browsers can become Data Providers by applying for an account. Subscribers and Event Providers can become Data Providers by requesting the Data Provider designation be added to their current account. Data Provider forms will automatically be pre-populated from stored account information when new data sets are being submitted.

Data catalog forms will include data provider details, access control settings, data quality indicators, references to data source, and required fields to set up data event notification parameters.

Data catalog interaction will prompt for one of the following:

- list current items (entries);
- add new items - display blank *data catalog* form, capture *data catalog* information and indicate new data set source;
- modify (update/replace) existing items (by data set owner only) - display appropriate *data catalog* page and capture changes to the catalog information;
- delete existing items (by data set owner only) - display appropriate data catalog page and flag for delete. A database management batch process will be run on a regular basis to find and remove (possibly archive) these items.

After the submission is complete, the information will be routed to the GeoCommunicator administrator for action. If the Administrator cannot complete the request, an e-mail describing the problem will be sent to the Data Provider.

During a data set submission the Data Provider will be prompted to supply descriptive data (metadata) about the data set through a data set submission interface (form). This form may include mandatory submission fields including contact information, spatial extent, data category(s), data collection timeframe(s) and potentially the quality of the measurement process and the access category of the data set.

The result will be an updated *data catalog* that can be queried to list the data items by source-ID, data provider name, date, category, etc.

The submission of a new data category or data set may trigger notification to the appropriate subscribers.

**Application
Integration**

GC-06 Submit Data functionality is closely linked with GeoCommunicator's **GC-03 Submit Event** process to submit a *data category event*, *activity event*, or *communication event* to GeoCommunicator since an event may result in a new or updated data set submission.

**Development
Implications**

Initial data provision will be for prototypes.

11.8.2 GC-06 Submit Data Overview

Use Case:	GC-06 Submit Data
Description	<p>Process to submit index and catalog information for <i>geo-referenced data</i>, <i>geo-related data</i> and/or <i>reference documents</i> to GeoCommunicator.</p> <p>This includes:</p> <ul style="list-style-type: none">▪ data reference (URL or physical location);▪ relevant <i>data catalog</i> information (e.g. metadata);▪ date;▪ access restrictions;▪ spatial reference; and▪ spatial extent. <p>NOTE: Provider may post product availability, restrictions, and subscriptions in the data catalog.</p> <p>NOTE: Providers will supply references to data housed in remote storage locations. This use case may include some security administration for restricted-access data sources.</p>
Actors	Data Provider
Pre-Condition	An authorized data provider needs to submit or modify data catalog information.
Post-Condition	Data provider's <i>data catalog</i> information has been submitted for addition, replacement or deletion.
Cross-Reference	GC-03 Submit Event

11.8.3 GC-06 Submit Data Primary Scenario

Actor Action	System Response
1. This use case begins when a data provider launches the submit data process	2. Prompt for data provider account number/password
3. Enter the account number/password	4. Verify account. If valid, display an interactive <i>data catalog</i> that lists the data sources the data provider has registered. The <i>data catalog</i> displays all relevant information (source-id, metadata, etc.). Prompt for disposition options (e.g. Add New, Modify data catalog, Update, Delete)

Actor Action	System Response
5. Interact with the <i>data catalog</i> . May select an item from the <i>data catalog</i> and select an action.	<p>6. Process action.</p> <p><i>Data catalog</i> forms include:</p> <ul style="list-style-type: none">▪ access settings;▪ security settings;▪ reference to data source;▪ subscriptions, etc. <p><i>Data catalog</i> form may include specification of "new data" event notification parameters/flag(s) for the system.</p> <p>[Add New] Display blank <i>data catalog</i> form and capture <i>data catalog</i> information and indicate new data source</p> <p>[Modify <i>data catalog information</i>] Display appropriate data catalog page and capture changes to <i>data catalog</i> information</p> <p>[Replace] Display appropriate data catalog page and capture changes to <i>data catalog</i> information and indicate new data source</p> <p>[Delete] Display appropriate data catalog page and flag for delete</p>
7. Input to <i>data catalog</i> forms, verify and submit	8. Process submittal. Route to data administrator for action, notify administrator, and track in workflow management.

11.9 GC-07 Manage Subscriber Account

11.9.1 GC-07 Manage Subscriber Account Analysis

Context	The purpose of 'Manage Subscriber Accounts' is to provide a process for Subscribers to manage their account information (and profile) governing notifications (as triggered by new or updated data, events and/or communications. Subscribers may delete their accounts.
New Concepts	<p><i>Subscriber Account.</i> Those interested in receiving updates of information on a managed basis. When new data is posted for a category, a notification will be sent to those who have subscribed to that category of information. This notification process may be on a scheduled basis where a subscriber has requested notification updates at preset times, or an <i>ad hoc</i> basis where notification is immediately triggered as an event occurs. Subscribers manage subscription options in their account profile.</p> <p><i>Subscriber Account Form.</i> This form is displayed with current values for the subscriber. A blank form is displayed for new subscribers.</p>
Key Features-Functionality	<p>There will be mandatory information to become a subscriber to GeoCommunicator. At a minimum this will include contact information.</p> <p>Each subscriber will have an account profile with an interface (form) providing the ability to change preferences and subscription parameters such as <i>spatial extent</i>, event categories and scheduling.</p> <p>Subscribers get a userID/password pair to secure their profile, notification and access privilege purposes.</p> <p>Upon submit the Subscriber account form is automatically verified and then routed to the GeoCommunicator Administrator.</p> <p>Browsers (not yet Subscribers) can submit a request for a Subscriber account at any time during a GeoCommunicator session. New Subscriber account requests are routed to the account administrator for verification, creation with an userID/password pair and assignment of group (role) privileges.</p> <p>As new data (<i>GC-06 Submit Data</i>) or new events (<i>GC-03 Submit Event</i>) are provided to the GeoCommunicator a data or event entry will be added to the Master Catalog. Although all GeoCom Actors will have the option of viewing a calendar of most recent events</p>

from the GeoCommunicator, Subscribers will also be sent notifications on specified spatial extents. On a regular basis the system will determine which subscribers, and in what timeframe each of these subscribers, need to be notified of each new event.

**Application
Integration**

GC-07 Manage Subscriber Account functionality is closely linked with GeoCommunicator's:

- **GC-01 Conduct Search** providing Actors the ability to modify their *research scope* or search criteria,
- **GC-02 Browse Search Results** providing Actors with the tools to review and evaluate the information returned by the Conduct Search process,
- **GC-09 Manage Accounts** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts,
- **GC-04 Manage Event-Notification Process** providing the GeoCommunicator Administrator with an interface to manage and resolve problems related to events and notifications.

**Development
Implications**

GC-07 Manage Subscriber Account capabilities are not necessary to perform the highest priority functions **GC-01 Conduct Search** and **GC-02 Browse Search Results**.

11.9.2 GC-07 Manage Subscriber Account Overview

Use Case	GC-07 Manage Subscriber Account
Description	<p>Process to establish or modify <i>subscriber account</i> including:</p> <ul style="list-style-type: none"> ▪ Subscriber information; ▪ Subscriber preferences; and ▪ subscription/notification parameters (<i>spatial extent</i>, event categories, scheduling). <p>NOTE: Browser may elect to become a new subscriber and pass current <i>research scope</i> information into the account setup.</p>
Actors	Subscriber
Pre-Condition	Subscriber needs to establish or modify <i>subscriber account</i> or subscription/notification parameters.
Post-Condition	<i>Subscriber account</i> or subscription/notification parameters are updated.
Cross-Reference	GC-01 Conduct Search; GC-02 Browse Search Results; GC-09 Manage Accounts; GC-04 Manage Event Notification Process

11.9.3 GC-07 Manage Subscriber Account Primary Scenario

Actor Action	System Response
1. This use case begins when the Actor launches the manage subscription process	2. Prompt for account/password (see new subscriber option)
3. Enter account/password	4. Display <i>subscriber account form</i> populated with current values.
5. Input/modify <i>subscriber account form</i> . <ul style="list-style-type: none">▪ Enter/update subscriber information▪ Select/update event notification category, its spatial extent, and its notification frequency▪ Select cancel subscription option, if desired▪ Verify and submit.	6. Process changes to <i>subscriber account form</i> . Route to account administrator for certification when secure access is required. [delete account] prompt for confirmation
7. [Delete] Confirm selection	8. Delete subscriber account.

11.9.4 GC-07 Manage Subscriber Account Secondary Scenarios

Name	Point of Occurrence/Overview
New subscriber account	Step#2. Assist Actor to establish new account. Route to account administrator for certification when secure access is required.

11.10 GC-08 Manage Data Process

11.10.1 GC-08 Manage Data Process Analysis

Context	<p>The purpose of <i>GC-08 Manage Data Process</i> is to provide the GeoCommunicator Administrator with an interface (tools) to manage the <i>data catalog</i>.</p>
New Concepts	<p>A Data Provider submits a data reference for inclusion into the data catalog, or the Administrator has received a message indicating an error with a data cataloging process.</p> <p>The data set information will be loaded into a temporary table allowing validation to be performed off-line. When the data information is flagged for production readiness it will be added to the Production data cataloging.</p> <p>The Administrator has the responsibilities of performing:</p> <ul style="list-style-type: none">▪ quality control on data references submitted for inclusion in the data catalog;▪ inserting new/replacement data reference information into the data catalog▪ deleting replaced or outdated data reference information from the data catalog;▪ troubleshoot a problem with either the data cataloging process <p>Tools (wizards) will be provided to view, verify and process data catalog submittals.</p>
Key Features-Functionality	<p>The system produced lists of 'to be resolved' transactions. As troubleshooting is performed, the Administrator can remove the transaction from the 'to be resolved' list. The Administrator will:</p> <ul style="list-style-type: none">▪ Quality control data references submitted for inclusion in the data catalog. A data catalog update process will check for mandatory fields (e.g. date, format, spatial extent).▪ Insert replacement data references for existing items in the master index.▪ Delete invalid source information from the <i>Master Catalog</i>. <p>Completing the processes above may trigger the notification process. Subscribers to the category and/or spatial extent of the subject data reference will be sent notification based on their specified subscription parameters.</p>

Application Integration

GC-08 Manage Data Process functionality is closely linked with GeoCommunicator's:

- **GC-06 Submit Data** process to submit *geo-referenced data, geo-related data* and/or *reference documents* and relevant *data catalog information* such as metadata to GeoCommunicator,
- **GC-09 Manage Accounts** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts,
- **System Utility- 'Compare/Contrast Data'** providing a graphic or textual comparison of new/proposed data references with existing data references and provide a report of the contrasts;
- **GC-10 Post Comment** providing Actors the ability to communicate directly with the provider(s) of a data reference(s).

11.10.2 GC-08 Manage Data Process Overview

Use Case	GC-08 Manage Data Process
Description	System administration to: <ul style="list-style-type: none"> ▪ quality control (QC) catalog information; ▪ insert new/replacement data reference information; ▪ modify <i>data catalog</i>; or ▪ delete data reference from the system.
Actors	Administrator
Pre-Condition	Data Provider has: <ul style="list-style-type: none"> ▪ submitted new/replacement data reference information; ▪ requested deletion of data references; or ▪ the Administrator has received a communication indicating an error in the data catalog information.
Post-Condition	Data catalog has been checked for relevant and required information including: <ul style="list-style-type: none"> ▪ format; ▪ reference locations/URLs; ▪ <i>spatial reference</i>; ▪ <i>spatial extent</i>; ▪ metadata; and ▪ access restrictions. <p>Qualified data reference information has been loaded, indexed, and made available for searching. Event notification has been triggered.</p>
Cross-Reference	GC-06 Submit Data; GC-09 Manage Accounts; GC-10 Post Comment

11.10.3 GC-08 Manage Data Process Primary Scenario

Actor Action	System Response
1. This use case begins when the data administrator receives notification of a submittal and launches the data management process.	2. Display a list of new submittals.
3. Select a submittal	4. Display <i>data catalog</i> information for selected submittal. Provide QC tools to verify and process submittal. Assist Administrator in testing catalog and viewing reference information (wizard?).
5. Perform QC process on <i>data catalog</i> information. Verify.	6. Provide controls for transaction on main database including: <ul style="list-style-type: none"> ▪ delete; ▪ modify/replace; ▪ add
7. Choose transaction.	8. Process transaction. Update transaction log. Trigger the event notification process on the transaction. [Delete] Remove reference information from index and delete catalog information from main database. [Add] Create source reference, add to index and insert catalog information. [Modify/Replace] Delete and Add. Replace previous version of reference information in master index and replace catalog information.

11.10.4 GC-08 Manage Data Process Secondary Scenarios

Name	Point of Occurrence/Overview
Error on QC	Step #5. Notify Data Provider.

11.11 GC-09 Manage Accounts

11.11.1 GC-09 Manage Accounts Analysis

Context	<p>Subscriber and Provider accounts need to be managed for new account certification, account error/issue resolution.</p> <p>The purpose of <i>GC-09 Manage Accounts</i> is to provide the GeoCommunicator Administrator with the necessary tools (system management utilities) to resolve any issues and requests relating to Actor accounts.</p>
New Concepts	<p>The Actor of <i>GC-09 Manage Accounts</i> is the GeoCommunicator Administrator. The Administrator account is assigned to the person or persons responsible for managing the GeoCommunicator system.</p>
Key Features-Functionality	<p>A list of 'to be resolved' account transactions is made available to the Administrator. As changes are made the Administrator can remove the transaction from the 'to be resolved' list.</p> <p>Examples of transactions the Administrator must perform include:</p> <ul style="list-style-type: none">▪ assigning account name and password to a new account request. The password must meet minimum good practice password formatting;▪ verifying account status with a Subscriber or Provider by testing e-mail address submitted. Determine and assign the Subscriber or Provider to an access group;▪ deleting an account (includes a process to remove the Subscriber or Provider from e-mail groups and transfer or delete forums managed by that Subscriber or Provider). <p>An account management interface (form) will be available for the Administrator to fulfill these functions.</p>
Application Integration	<p><i>GC-09 Manage Accounts</i> functionality is closely linked with the following GeoCommunicator use cases:</p> <ul style="list-style-type: none">▪ <i>GC-07 Manage Subscriber Account</i> allowing Browsers to request a Subscriber Account,▪ <i>GC-05 Manage Provider Account</i> allowing Browsers or Subscribers to establish or modify data provider, event provider account information.

Development Implications *GC-09 Manage Accounts* will move higher in priority as more Browsers request GeoCommunicator Provider and Subscriber accounts.

11.11.2 GC-09 Manage Accounts Overview

Use Case	GC-09 Manage Accounts
Description	System administration of Subscriber and Provider accounts including: <ul style="list-style-type: none"> certifying new accounts; resolving errors; and managing account-related issues.
Actors	Administrator
Pre-Condition	An account-related issue must be managed.
Post-Condition	Account-related issue is resolved.
Cross-Reference	<i>GC-07 Manage Subscriber Account; GC-05 Manage Provider Account</i>

11.11.3 GC-09 Manage Accounts Primary Scenario

Actor Action	System Response
1. This use case begins when the administrator launches the manage accounts process	2. Display unresolved account transactions.
3. Select transaction to manage.	4. Display account management form. Provide tools to: <ul style="list-style-type: none"> assign account and password; verify Actor status with data provider; assign Actor to a group; delete account; etc.
5. Select tools and apply.	6. Process changes to account.

11.11.4 GC-09 Manage Accounts Secondary Scenarios

Name	Point of Occurrence/Overview
Cancel Subscription	Step #5/6. Search for associated forums, e-mail groups, etc. and delete Actor.

11.12 GC-10 Post Comment

11.12.1 GC-10 Post Comment Analysis

Context	<p>GeoCommunicator facilitates access to cadastral and land records-related information, and enables communication between information stakeholders.</p> <p>The purpose of the <i>GC-10 Post Comment</i> function is to provide GeoCommunicator users with an effective and efficient means of communicating information to their industry peers. Comments can be posted by all actors including: Browser; Subscriber; Data Provider; Event Provider; and Administrator.</p>
New Concepts	<p><i>Communication Event.</i> Any creation of a discussion forum, e-mail group, information notice, sending an e-mail, or information call submitted through the <i>Post Comment</i> process.</p> <p><i>Data Discrepancy.</i> Data sets of the same category in the same spatial extent whose boundaries, positions (coordinates) or attributes do not match.</p>
Key Features-Functionality	<p>Comments may be posted as part of industry-related discussions or requests, specific forum decisions, or general communication.</p> <p>The <i>GC-10 Post Comment</i> interface will provide the following major functions:</p> <ul style="list-style-type: none">▪ assist actor to input information, including spatial extent as appropriate, when posting a comment;▪ a wizard to assist actors to register for participation in selected e-mail groups or discussion forums;▪ a wizard driven interface to assist actors to prepare topical e-mail for various GeoCom users or user types. This process (with intelligent event parameters automatically populated) interfaces to an industry standard e-mail system;▪ a wizard to assist actors to publish information notice(s) or data call(s). A request form is provided to indicate notice or request type, spatial extent, dates, etc.;▪ provide a request form to handle submission, setup and notification of new e-mail groups or discussion forums. <p>Browsers will have the opportunity to establish Subscriber or Provider accounts, which is a prerequisite to being able to 'Post Comments'.</p>

**Application
Integration**

GC-10 Post Comment functionality is closely linked with GeoCommunicator's:

- **GC-11 Manage Forums** process for the system administrator to manage communication forums and e-mail groups.
- **GC-03 Submit Event** process to submit a *data category event*, *activity event*, or *communication event* to GeoCommunicator since an event may result in a new or updated data set submission,
- **GC-04 Manage Event Notification Process** providing system administration of errors related to subscriber event notifications,
- **GC-09 Manage Accounts** providing the GeoCommunicator Administrator with tools to manage Subscriber and Provider accounts.

11.12.2 GC-10 Post Comment Overview

Use Case	GC-10 Post Comment
Description	<p>Process to handle <i>communication events</i> to:</p> <ul style="list-style-type: none"> ▪ a topical forum (via e-mail); ▪ e-mail group (e.g. to review proposed data); ▪ data provider (e.g. to report errata); ▪ publish an information notice (e.g. an RFP, a Public Notice, or data discrepancy); or ▪ publish an information call (e.g. data request, reference request or event request). <p>NOTE: Browsers may have limited communication access. Subscribers may have enhanced access to forums</p>
Actors	Browser, Subscriber, Data Provider, Event Provider, Administrator
Pre-Condition	Actor wishes to communicate information.
Post-Condition	Actor has sent or published information.
Cross-Reference	GC-11 Manage Forums; GC-03 Submit Event; GC-04 Manage Event Notification Process; GC-09 Manage Accounts

11.12.3 GC-10 Post Comment Primary Scenario

Actor Action	System Response
1. This use case begins when the Actor launches the post comment process.	2. Display <i>communication events</i> options. Options may include: <ul style="list-style-type: none"> ▪ request new e-mail group or discussion forum; ▪ participate in e-mail group or discussion forum (join if first time); ▪ send e-mail; ▪ publish information notice; or ▪ publish information call.
3. Select option.	4. Prompt Actor to input necessary information and request confirmation. Assist Actor to establish <i>spatial extent of communication event</i> where/when appropriate. [Request new e-mail group or discussion forum] Display request form, handle submission, setup and notice. [Participate in e-mail group or discussion forum] Display group selection form, establish communications. If Browser, establish account. [Send e-mail] Display e-mail event form (intelligent event parameters populated, group and administrator address information provided as appropriate). [Publish information notice] Display information notice form (to input type of notice, spatial extent, dates, etc.) [Publish information call] Display information request form (to input type of request, spatial extent, dates, etc.)
5. Input information, confirm and submit.	6. Process request – verify information provided and setup as needed.

11.12.4 GC-10 Post Comment Secondary Scenarios

Name	Point of Occurrence/Overview
Error with information input, Actor permissions, etc	Step #6. Notify Actor and return to #5.

11.13 GC-11 Manage Forums

11.13.1 GC-11 Manage Forums Analysis

Context

The GeoCommunicator will provide a means for users to discuss an industry-related topic or issue. (An example of a topic forum may be a data discrepancy with a spatial extent, perhaps a disputed corner post location).

The purpose of 'Manage Forums' is to provide the GeoCommunicator Administrator with an interface (tools) to manage the GeoCommunicator discussion forums.

**Key Features-
Functionality**

GeoCommunicator users have 'read access' and 'post-access' (via e-mail) to a forum. All posts must include the date of posting, e-mail address of poster and a subject line indicating the forum topic. Individual forums may require additional posting requirements.

A description of how to create and manage a forum will be available on the GeoCommunicator.

A forum submission form will require a forum category, description and forum manager contact information. When this form is complete the request is routed to the Administrator who will create the forum to the specifications and send an e-mail to the forum initiator.

A list of 'to be resolved' forum transactions is displayed to the Administrator. The Administrator resolves items and deletes the transaction from the 'to be resolved' list. Notifications are sent as appropriate.

If an account is to be deleted from a GeoCommunicator system, a process will first ensure that the account owner is not a forum manager. The forum may need to be reassigned prior to the account deletion.

A process will be necessary to check the last modified date of the contents of each forum. If a forum is dormant for a predefined period of time, (e.g. 6 months), an e-mail will be sent to the forum manager requesting authorization to archive the forum. A copy of that e-mail is also sent to the Administrator.

Each forum must have one or more forum managers (initiator and content manager may or may not be the same person).

The forum manager will have the on-going responsibility of notifying the Administrator when changes are needed for the forum. They should also notify the Administrator when the Forum has reached a resolution and can be archived.

All GeoCommunicator users have access to forums unless the forum initiator requests access-level constraints.

**Application
Integration**

GC-11 Manage Forums' functionality is closely linked with the following GeoCommunicator use cases:

- ***GC-04 Manage Event Notification Process***' providing system administration of errors related to subscriber event notifications,
- ***GC-10 Post Comment*** providing Actors the ability to communicate directly with the provider(s) of a data reference(s).

**Development
Implications**

The intent is to use industry standard products to provide the forum functionality. ***The GC-11 Manage Forums*** functionality and utilities will be somewhat defined by the selected product.

11.13.2 GC-11 Manage Forums Overview

Use Case	GC-11 Manage Forums
Description	The System Administrator: (1) sets up and closes communication forums, e-mail groups; (2) monitors content; and (3) manages errors.
Actors	Administrator
Pre-Condition	Administrator has received request for new forum/e-mail group. Administrator receives system error on communications.
Post-Condition	Communications are setup, closed, monitored and managed as needed.
Cross-Reference	<i>GC-10 Post Comment; GC-04 Manage Event Notification Process</i>

11.13.3 GC-11 Manage Forums Primary Scenario

Actor Action	System Response
1. This use case begins when the administrator launches the manage forums process.	2. Display: <ul style="list-style-type: none">▪ forum/e-mail group errors;▪ requests for new forums and e-mail groups;▪ requests for adding participants to a forum or e-mail group; and▪ lists of active forums and e-mail groups.
3. Select an item to resolve.	4. Provide appropriate management tools based on selection.

5. Use tools to research and resolve error or forum/e-mail group request. May access previous communications to monitor content.	6. Process actions include: <ul style="list-style-type: none">▪ update system and database(s);▪ clear item from unresolved list; and▪ send notification(s) on resolution.
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11.13.4 GC-11 Manage Forums Secondary Scenarios

Name	Point of Occurrence/Overview
New forum or e-mail group	Step #5/6. Treat as a type of event and trigger notifications as appropriate